

Claims

- [c1] 1. A method of obtaining a transformed dihaploid plant comprising:
obtaining haploid sporophytic tissue;
transforming the haploid sporophytic tissue;
producing dihaploid tissue from the transformed haploid sporophytic tissue; and regenerating a dihaploid plant from the dihaploid tissue.
- [c2] 2. The method of claim 1 in which the sporophytic tissue is immature embryo, mature embryo, callus, nodal section, or meristem.
- [c3] 3. The method of claim 1 in which the dihaploid plant is produced by treating the transformed haploid tissue with a chromosome doubling agent.
- [c4] 4. The method of claim 3 in which the chromosome doubling agent is colchicine.
- [c5] 5. The method of claim 1 in which the plant is corn.
- [c6] 6. A method of obtaining a transformed dihaploid plant comprising:
obtaining haploid sporophytic tissue;

transforming the haploid sporophytic tissue;
regenerating a haploid plant; and
producing a dihaploid plant from the haploid plant.

- [c7] 7. The method of claim 6 in which the plant is corn.
- [c8] 8. The method of claim 6 in which the sporophytic tissue is immature embryo, mature embryo, callus, nodal section, or meristem.
- [c9] 9. The method of claim 6 in which the dihaploid plant is produced by treating the transformed haploid plant with a chromosome doubling agent.
- [c10] 10. The method of claim 9 in which the chromosome doubling agent is colchicine.
- [c11] 11. A method of obtaining a transformed dihaploid plant comprising:
obtaining haploid tissue;
culturing the haploid tissue to form haploid callus;
transforming the haploid callus;
producing dihaploid callus from the transformed haploid callus; and
regenerating a dihaploid plant from the dihaploid callus.
- [c12] 12. The method of claim 11 in which the plant is corn.
- [c13] 13. The method of claim 11 in which the dihaploid callus

is produced by treating the transformed haploid callus with a chromosome doubling agent.

[c14] 14. The method of claim 13 in which the chromosome doubling agent is colchicine.

[c15] 15. A method of obtaining a transformed dihaploid corn plant comprising:

obtaining haploid corn tissue;

culturing the haploid corn tissue to form haploid callus;

transforming the haploid callus;

producing dihaploid corn callus from the transformed haploid corn callus; and regenerating a dihaploid corn plant from the dihaploid callus.

[c16] 16. The method of claim 15 in which the dihaploid callus is produced by treating the transformed haploid callus with a chromosome doubling agent.

[c17] 17. The method of claim 16 in which the chromosome doubling agent is colchicine.

[c18] 18. A transformed dihaploid corn plant produced by the method of claim 15.

[c19] 19. A method of obtaining a transformed dihaploid corn plant comprising:

obtaining haploid corn tissue;

culturing the haploid corn tissue to form haploid callus;
transforming the haploid callus;
regenerating a haploid plant from the transformed haploid corn callus; and producing a dihaploid corn plant from the haploid corn plant.

[c20] 20. The method of claim 19 in which the dihaploid plant is produced by treating the transformed haploid plant with a chromosome doubling agent.

[c21] 21. The method of claim 20 in which the chromosome doubling agent is colchicine.

[c22] 22. A transformed dihaploid corn plant produced by the method of claim 19.

[c23] 23. A method of obtaining a transformed dihaploid corn plant comprising:
obtaining haploid corn tissue;
culturing the haploid corn tissue to form haploid multiple bud cultures;
transforming the multiple bud cultures;
producing dihaploid multiple bud cultures from the transformed multiple bud cultures; and
regenerating a dihaploid corn plant from the dihaploid multiple bud cultures.

[c24] 24. The method of claim 23 in which the dihaploid mul-

tiple bud cultures are produced by treating the transformed multiple bud cultures with a chromosome doubling agent.

[c25] 25. The method of claim 24 in which the chromosome doubling agent is colchicine.

[c26] 26. A transformed dihaploid corn plant produced by the method of claim 23.

[c27] 27. A hybrid corn plant produced by crossing the transformed dihaploid corn plant of claim 26 with another corn plant.